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FOUR NEW SUBSPECIES OF THE ATTACIDAE FROM JAPAN AND FORMOSA (LEPIDOPTERA)

By HIROSHI INOUE[1)]

Antheraea yamamai (GUÉRIN-MÉNEVILLE, 1861)

The following four subspecies have been known:

A. y. yamamai (GUÉRIN-MÉNEVILLE), 1861, Rev. Zool. (2) 13 : 435, tt. 11–13. Japan (Hokkaido, Honshu, Shikoku, Kyushu).

A. y. bergmani BRYK, 1948, Arkiv Zool. 41A (1) : 19, t. 2, f. 5. North Korea.

A. y. ussuriensis SHAKBAZOV, 1953, Zool. Zhurn. Moscow, 32 : 472, figs. Ussuri.

A. y. titan MELL, 1958, Deutsch. ent. Zeit. (N.F.) 5 : 212. South China.

Recently I obtained some specimens of this species from the Ryukyu Archipelago and from Formosa and found that they represent well-established island races.

Antheraea yamamai yoshimotoi **subsp. nov.**

Male & female. Termen of both wings smoother, forewing more weakly produced at apex and hindwing with apex more roundish than in the nominate race, fuscous bar in cell of forewing straight or nearly so, while in the other races it is curved inward, median band thicker and apparently straighter on forewing above and beneath, nearly vertical to hindmargin, ocellus of forewing much smaller, glassy pupils of both wings vestigial or even absent, in ♀ it is well visible, but smaller than in ♀ of the other races. Though the ground colour is variable both in the nominate and present races, the latter is obviously darker if the corresponding colour form is compared. The shape of the wings similar to subsp. *bergmani* BRYK, but readily distinguishable from it by the characteristics described above.

Length of forewing : ♂, 71–76 mm; ♀, 74–75 mm.

Holotype (♂) : Yuwandake, Amami-Ôshima, 16. vii. 1963 (C. M. YOSHIMOTO). Paratypes: Yuwan, Amami-Ôshima, 18. vii. 1963, 2♂, 1♀ (H. INOUE); Yona, North Okinawa, 1963, 3♂, 1♀ (R. KUROSHIMA). The holotype will be deposited to Kyushu University.

Distribution: Ryukyu Archipelago (Amami-Ôshima, Okinawa).

Antheraea yamamai superba **subsp. nov.**

Male. Much larger and apex of forewing more strongly produced than in the other races, both

1) 4157, Kugenuma, Fujisawa, Kanagawa Pref.

wings with termen smooth, that of forewing deeply incurved below apex, hindwing with tornus more prominent than in the other races, median shade of forewing thick, not or slightly sinuous, under surface with dark markings strongly reproduced, especially subterminal row of spots much heavier and they are frequently wedge-shaped. The range of variation seems to be similar to the nominate race, but reddish coloration denser; the dark brown form of the present race has not been discovered.

Length of forewing: 88-101 mm, while in the nominate race: 70-84 mm.

Female. Forewing with apex falcate, sharply pointed. The sole specimen before me is the yellow
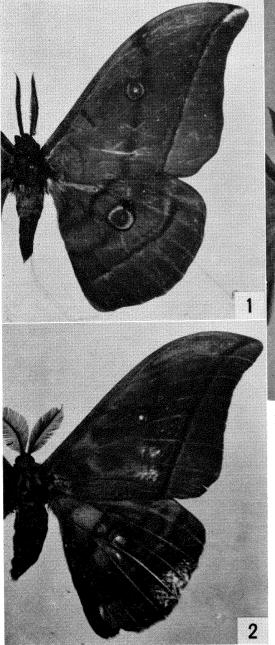
Fig. 1. *Antheraea yamamai yoshimotoi* subsp. nov. Holotype, ♂, from Amami-oshima.

Fig. 2. *Antheraea yamamai yoshimotoi* subsp. nov. Paratype, ♂, from Okinawa.
The both correspond to f. *morosa* BUTLER, or dark brown form, of the nominate subspecies.

Fig. 3. *Antheraea yamamai superba* subsp. nov. Holotype, ♂, from Formosa. Corresponding to f. *fentoni* BUTLER, or grey form, of the nominate subspecies.

Fig. 4, 5. *Rhodinia jankowskii jankowskii* (Oberthür), ♂ & ♀, from Amurland.
Fig. 6, 7. *Rhodinia jankowskii hokkaidoensis* subsp. nov. Paratypes, ♂ & ♀.
Fig. 8, 9. *Rhodinia jankowskii hattoriae* subsp. nov. Holotype, ♂, & paratype, ♀.

form, which is apparently more vivid in coloration than the nominate race.

Length of forewing: 98 mm, while in the nominate race: 65–75 mm.

Holotype (♂): Wushe, Central Formosa, July 1963 (Native collector, from J. OKURA). Paratypes: data as holotype, 12♂, 1♀; type-locality, vii. 1957, 1♂; without data, 1♂. Two male paratypes in coll. National Science Museum, Tokyo, and five male paratypes in coll. Mr. J. OKURA.

Distribution : Formosa.

Rhodinia jankowskii (OBERTHÜR, 1881)

Saturnia jankowskii OBERTHÜR, 1881, Etud. Ent. 5 : 39, t. 8, f. 4. Ussuri.

No geographic variations have been known, but the Japanese specimens will be divided into two new races, separated from the nominate race from the Amur and Ussuri district. With the courtesy of Mr. D. S. FLETCHER, British Museum (Natural History) I received a pair of photos of the nominate subspecies from the Amurland now preserved in that Museum for comparion.

Rhodinia jankowskii hokkaidoensis **subsp. nov.**

Male & female. Ground colour much paler, glassy spots much smaller than in the other races, the proximal margin of spot straight or shallowly concave, distally rounded or rarely angled, pinkish tint of ante-and postmedian line weak. Under surface much more weakly marked than in the other races.

Length of forewing: ♂, 42–50 mm; ♀, 48–49 mm.

Holotype (♂) : Shibecha, Kushiro, 1. x. 1952 (K. IJIMA). Paratypes : type-locality, 8. x. 1952, 1♂; 6–9. x. 1953, 8♂, 2♀; 5. x. 1959, 1♂; 1–5. x. 1963, 3♂ (K. IJIMA). Each one male paratype in coll. National Institute of Agricultural Sciences, Tokyo, and British Museum (Nat. Hist.).

Distribution : Hokkaido. I am not confident whether this subspecies is confined to eastern part or distributed throughout the whole island.

Rhodinia jankowskii hattoriae **subsp. nov.**

Male & female. Much more similar to the nominate race than to the above described one, but distinguished from the former by larger size, forewing with fuscous area outside postmedian line broader, hindwing with terminal area evenly infuscated, subterminal bordering between fuscous and yellow parts being inconspicuous.

Length of forewing : ♂, 43–49mm; ♀, 47–49mm.

Holotype (♂) : Echigo-Kawaguchi, Niigata Pref., 29. x. 1960 (R. SATO). Paratypes : data as holotype, 1♂; Tokura, Gumma Pref., 21–22. ix. 1955, 3♂, 5♀ (I. HATTORI); Onyû, Fukui Pref., 5. xi. 1956, 1♀ (I. IZAKI); Kawafuru Spa, Gumma Pref., 6. x. 1959, 1♂ (H. KOBAYASHI); Shirakawaguchi, Gifu Pref., 15. x. 1963, 3♂ (H. KAMIYAMA, from M. OKADA); Futamata, Kita-Azumi-gun, Nagano Pref., 1♀; Kuzu Spa, Takase Valley, Nagano Pref., 27. x. 1963, 1♂, 1♀; Inawashiro-machi, Foot of Mt. Bantai, Yamagata Pref., 20. ix. 1962, 1♂ (M. KURATA); Hôshi, Gumma Pref., x. 1958, 1♂ (OKADA). One male paratype in coll. National Science Museum, Tokyo, and two male and five female paratypes in coll. National Institute of Agricultural Sciences, Tokyo.

Distribution : Honshu, Shikoku.

Unless otherwise stated all the types designated in this paper are preserved in my collection.

摘　　要

日本及び台湾のヤママユガ科の4新亜種

Antheraea yamamai yoshimotoi Inoue ヤママユ

原名亜種より小型，外縁はいっそうなめらかで，前翅頂はそれほど出張らない．一般に色彩が暗く，横脉紋は小さく，特にその中心の透明部はきわめて小さいか，又は痕跡的，前翅の中室内にある暗色帯は，一直線又はそれに近く，原名亜種のように内方に弓状をなすことがない．

分布：奄美大島・沖縄本島．

Antheraea yamamai superba Inoue ヤママユ

既知の亜種よりはるかに大型で，前翅頂は鋭く出張る，翅の色彩は原名亜種より鮮明．裏面の斑紋はきわめて濃厚で，特に外縁部のくさび型の紋列がよく発達している．

分布：台湾（中部山地）

Rhodinia jankowskii hokkaidoensis Inoue クロウスタビガ

色彩はアムール地方の原名亜種より明るく，横脈上の透明紋がきわめて小さい．

分布：北海道．釧路国標茶の標本のみによって記載したので，はたしてこの亜種が全道にわたって分布しているかどうかは，今後比較する必要がある．

Rhodinia jankowskii hattoriae Inoue クロウスタビガ

上記の亜種よりはるかに原名亜種に似ているが，大型であること（北海道亜種とほぼ同じ大きさ），前翅の外横線の外側に沿う暗色部の幅がいっそう広く，後翅の外縁部が一様に暗色で，亜外縁部の暗色と黄色部の境界が不明瞭なので区別される．

分布：本州・四国．

本文に記録した標本のうち，奄美大島でとれたヤママユの新亜種は，日米科学協力研究計画の一環として実施された琉球列島の昆虫相調査隊によって，1963年7月に採集されものである．

標本の提供を受けた方々に厚く御礼申上げる．

北海道のヤママユ

私の手許には，北海道産として1♂（帯広の糠平，1962年8月17日，小野泱氏採集）と1♀（天塩の朝日村，1951年8月30日，長谷川敏春氏採集）の2個体しかないので，決定的なことは云えないが，本土の冠名亜種（nominate subspecies）とかなりはっきりと区別されるので，記して置き度い．即ち，①本土産よりやや小型で，斑紋が弱い．②前翅の内横線は，中室が著しく狭くなっている部分，つまり中室内の短条と基部亜前縁の中間から出るが，北海道産では著しく外方に寄っている．③眼状紋中央の透明部は大きい．④♀で発達している眼状紋の上部から第7脈の基部にある紅色をおびた短条がない．⑤後翅外横線は前縁から第7脈まで完全に消えている．

北海道には，ヤママユが本州のように多産しないようだが，多数の個体を比較したら面白いだろう．

〔井　上　　寛〕